

Q1.

Hello	A packet that establishes and maintains neighbor adjacencies
Query	A packet that is send to neighbors following the loss of a feasible successor
Reply	A packet that is sent to inform neighbors of the presence of a feasible successor
Request	A packet that is used in route server applications
update	A packet that is used to convey reachability of destinations

Q2.

Ntp master	Configures the device as an authoritative time
Ntp orphan	Configures the device to simulate the UTC source when time sources are inaccessible
Ntp peer	Configures the devices to synchronise its time again server
Ntp refclock	Configures the devices to synchronise its time again device
Ntp server	Configures an external time source

Q3. What feature can a device use to identify other members of the same IPV6 multicast group on a network segment?

A. MLD

Q4. Which two statements are true about VPLS?

- A. It relies on flooding to propagate MAC address reachability information
- B. It can carry a single VLAN per VPLS instance

Q5. Which two options are the two main phases of PPPoE?

- A. Active Discovery Phase
- B. PPP Session Phase

Q6. Which two route types are advertised by a router with this configuration?

```
Router eigrp 1
Network 10.0.0.0
Eigrp stub
```

- A. Summary
- B. Connected

Q7. Which statement is true about trunking?

- A. DTP is point-to-point protocol

Q8. With BGP always-compare-MED enabled, which BGP entry is installed in the RIB?

- A. Entry 3 because it has the lowest MED

Q9. In an MPLS-VPN environment, what is the effect of configuring an identical set of route targets for a particular VRF but then configuring a non-identical RD across multiple PE devices?

- A. The route are correctly managed by the control plane, but there are instances where routers take up twice as much memory

Q10.

Edge device	Connects sites to an overlay network
Join interface	Provides a link to the overlay network
Internal interface	Connects VLANs to be extended
Overlay interface	Encapsulate layer 2 frames within an IP header
Site VLAN	Received local OTV hello messages
Authoritative edge device	Elected by the OTV to provide loop-free multihoming

Q11. Which description of infrastructure as a Service is true?

- A. A cloud service that delivers on demand resources like networking & storage

Q12. Your NetFlow collector is not working due to large amount of traffic entering your network which is destined to a single IP address. Which NetFlow feature allows you to collect the top source hosts for this traffic on the local router?

- A. Ip flow-top-talkers

Q13. On which three options can Cisco PfR base its traffic routing?

- A. Load balancing requirements
- B. Network Performance
- C. User-defined link capacity thresholds

Q12. Which three modes are valid for forming an EtherChannel between the ports of two switches?

- A. Active/passive
- B. Active/Active
- C. Auto/desirable

Q13. Which three session tables does NAT64 maintains?

- A. TCP
- B. UDP
- C. ICMP Query

Q14. Your network uses an MPLS VPN backbone with OSPF routing between all PE & CE routers and on the 10Mb backup links between the CE routers. You notice that data between CE1 & CE3 is flowing over the backup links instead of the higher-bandwidth MPLS VPN backbone even when the backbone is up. What is the most likely explanation of this behaviour?

- A. The devices are preferentially using intra-area routing

Q15.

Label	Identifies the group of which an IP packet belongs
Implicit-null	Instructs the penultimate router to pop the label before forwarding
Explicit-null	Instructs the router to keep the label when forwarding
PHP	Pops an MPLS label off one hop before its final destination
FEC	Groups IP packets so that they are given the same forwarding treatment
Virtual Circuit	Identifies a layer2 MPLS connection from on device to another

Q16. What is the requirement of BFD static route support?

- A. CEF must be configured on all routers that will carry traffic.

Q17. Statements about route summarization are true?

- A. EIGRP learned routes are automatically summarized
- B. Routes are automatically summarized to their classful boundary with OSPF

Q18. Two options are requirements for CoPP?

- A. CEF must be enabled globally
- B. A class map must be configured to identify traffic

Q19. Which IPv6 tunnelling method allows Host A to communicate Host B within the same site?

- A. ISATAP

Q20. Which trunking configuration between two Cisco switches can cause a security risk?

- A. Configuring different native VLANs on the switches

Q21.

Provides dynamic spoke-to-spoke traffic flow	DMVPN
Supports multicast traffic natively on private IP networks	DMVPN
Operates in normal receive-only & passive mode	GETVPN
Supports operations between products from multiple vendors	GETVPN
Operates in tunnel & transparent mode	IPSec
Uses a peer-to-peer encryption style for point-to-point GRE tunnels	IPSec

Q22.

BGP	Uses TCP 179
EIGRP	Uses IP protocol 88
IS-IS	Operates without using the IP protocol to carry routing messages
ODR	Operates at Layer2 via CDP
OSPF	Uses IP protocol 89
RIP	Uses UDP 520

Q23.

Authentication Algorithm	A value that controls the cryptographic mode
Authentication key	A secret value used when encrypting packets
Key ID	A 8-bit unsigned value that controls which SA the receiver uses
Key Start Accept	The time at which the OSPF router will begin processing packets from the SA
Key Start Generate	The time at which the OSPF router will begin using the SA to encrypt packets
Key Stop Accept	The time at which the OSPF router will stop processing packets from the SA
Key Stop Generate	The time at which the OSPF router will stop using the SA to encrypt packets

Q24. Which option describes a difference between Ansible & Puppet?

- A. Ansible is Python based and Puppet is Ruby based

Q25.

Data pattern	Troubleshoot framing errors & clocking problems
Set DF bit in IP header	Identifies the smallest MTU allowed along the path to the destination
Sweep range of sizes	Identifies non-conforming MTU devices along the path to the destination
Type of service	Set the QoS
Validate reply data	Used to confirm the data received from the destination

Q26.

Transport	Provides a communication path between the client and server
Messages	Provides a framing mechanism for encoding RPCs
Operations	Defines a set of base protocol operations
Content	Holds information on data models & protocol operations

Q27. Three values are used to generate a unique bridge ID for each VLAN in PVST+?

- A. Spanning-tree MAC address
- B. Switch priority
- C. Extended system ID

Q28. Which three technologies can be used to implement redundancy for IPv6?

- A. HSRP
- B. GLBP
- C. IPv6 RA

Q29. Which command address learning on the configures port security on a switch to enable permanent MAC interface?

- A. Switchport port-security mac-address sticky

Q30. When you implement the EIGRP add-paths feature, which configuration can cause routing issues on a DMVPN circuit?

- A. Disabling the default variance under the EIGRP process

Q31. Correct binary equivalent of DSCP value AF41?

- A. 100010

Q32.

6-to-4	A point-to-multipoint tunnel used for intra-site and inter-site communication
6RD	A point-to-multipoint tunnelling mechanism using IPV6 prefixes from the ISP IPv6 address space holding ipv4 addresses
ISATAP	A point-to-multipoint tunnel used for intra-site communication only
IPv4-compatible	A point-to-multipoint tunnel using the ::/96 prefix that is used for intra-site and inter-site communication
GRE	A point-to-point tunnel used for intra-site and inter-site communication that carries a variety of packet types
Manual	A point-to-point tunnel used for intra-site and inter-site communication that carries only IPv6 packets

Q33.

Type 3	Advertises an internal network or set of networks to routers in other areas
Type 9	Associates a group of prefixes for transit networks or stub networks
Type 1	Indicates whether the routers is part of a virtual link
Type 2	Collects link-state information and cost information for the entire network
Type 8	Provides the link-local address of a router to other routers on the same link
Type 5	Redistributes external routers
Type 4	Enables routers to determine the best path to an external network

Q34.

Stateless NAT64	Performs 1:1 translation
Stateless NAT64	Wastes IPv4 addresses
Stateless NAT64	Provides end-to-end address transparency
Stateless NAT64	Requires IPv6 address assignment that can be translated to IPv4
Stateful NAT64	Performs 1:N translation
Stateful NAT64	Conserves IPv4 addresses
Stateful NAT64	Creates a unique binding for every translation
Stateful NAT64	Supports all modes of IPv6 address assignement

Q35.

Flow Policy	Associates a flow monitor and at least one class
Flow Monitor	Associates a flow record and a flow exporter
Flow record	Attaches to an interface to monitor performance
Class	Specifies filtering criteria
Flow Exporter	Specifies destination for monitored data
Service Policy	Specify the key and nokey fields to monitor

Q36. Which two statements about DMVPN & NHRP are ture?

- A. NHRP dynamically provides information about the spoke routers to the hub
- B. The hub router uses NHRP to initiate the GRE tunnel with spokes

Q37.

Step 1	Prepare Configuration
Step 2	Bring up VSL links
Step 3	Run VSLP
Step 4	Run RRP
Step 5	Inter chassis SSO
Step 6	Continue system bootup

Q38.

Step 1	Configure a flow record
Step 2	Configure a flow monitor that includes that includes the flow record and flow exporter
Step 3	Configure a class that describes the filtering criteria
Step 4	Configure a policy with at least one performance-monitor type flow monitor

Step 5	Associate a performance-monitor type policy with this corresponding interface
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Q39.

Marking	Associating packets with a QoS model
Policing	Determining whether packets are in or out of profile
Scheduling	Evaluating configuration and policer information to determine the correct treatment for an out-of-profile packet
Classification	Evaluating the DSCP or COS values that correspond to a packet's QoS label
Queuing	Providing service in accordance with a configured SRR weight

Q40.

Query	A packet that aids fast convergence
Update	A packet that confirms reachability
Hello	A packet that is used to find neighbors
ACK	A packet without content
Reply	A unicast message to acknowledge requests

Q41.

Peer session templates	Applies configuration commands to a group of neighbors in all address families
BGP dynamic update peer-groups	Separates updates from configurations, which allows groups to belong to different address families
BGP dynamic neighbors	Supports the configuration of a group of neighbors by defining a prefix range instead of a single neighbor address
Peer policy templates	Applies configuration commands to a group of neighbors within specific address families
Peer Groups	Creates a group of neighbors in the same address-family that share the same outbound routing policies

Q42.

Tracking option reachability & return code Authentication Failure	DOWN
Tracking option reachability & return code Over Threshold	DOWN
Tracking option state & return code Format Failure	DOWN
Tracking option state & return code Ok	UP
Tracking option state & return code Over Threshold	UP
Tracking option reachability & return code Ok	UP

Q43.

The diagram represents a data plane packet that has undergone GET VPN encapsulation with time-based anti-replay. D & D

A	ESP Header
B	Metadata
C	Payload
D	ESP Trailer

Q44.

Root port	The port whose path cost deems it closest to the root bridge
Designated port	The port that sends the best BPDUs on its segment
Alternate port	A blocked port that receives more useful BPDU from a different bridge
Backup port	A blocked port that received more useful BPDU from its own bridge

Q45.

The default EIGRP peering method	Multicast
Uses the remote keyword in the neighbor statement to form peerings	OTP point-to-point
Forms a half-mesh topology through peers configured with the unicast-listen keyword	OTP route-reflector
Uses neighbor statement on a non-passive interface with default options	Unicast

Q46.

Level 1-2	ABR
DIS	Designated router
Level 2	Internal Backbone
Level 1	Totally Stubby internal backbone

Q47.

Multiprotocol unreachable NLRI	An optional non transitive attribute used to withdraw a route
Capability mode	A value that indicates whether multiprotocol extensions are supported
Multiprotocol reachable NLRI	An optional non transitive attribute used to advertise a route
AFI	A value that indicates a network protocol
SAFI	A value that identifies a subtype of network protocol

Q48.

Applied in both the inbound and outbound directions	Traffic Policing
Drops excess packets when traffic load exceeds the CIR	Traffic Policing
May cause excessive TCP retransmissions	Traffic Policing
Buffers and queues excess packets when traffic load exceeds the CIR	Traffic Shaping
Configures in bits per seconds	Traffic Shaping
Minimises TCP retransmissions	Traffic Shaping

Q49.

Dual Stack	Configures parallel ipv4 and ipv6 network infrastructure and address
NAT-PT	Translates traffic between ipv4 & ipv6 address
ISATAP tunneling	Uses any ipv6 unicast site address
6to4 tunneling	Uses ipv6 site address with in the 2002::/16 prefix
IPv6 to ipv4 GRE tunneling	Uses standard point-to-point encapsulation

Q50.

Neighbor advertisement	The message a node uses to share its link layer address
Neighbor redirect	The message a node uses to notify hosts on the link of a better first-hop for a destination
Neighbor Solicitation	The message a node uses to discover the link-local addresses of other nodes on the link
Router advertisement	The message a node uses to share information about its status and its local prefixes
Router Solicitation	The message a host sends when it starts up requesting local routers to transmit information

Q51.

It connects IPV6 sites that are separated geographically	6RD
It uses to test IPv6 tunnelling before deployment	6RD
It encapsulates ipv6 traffic in ipv4 packets	6to4
It uses the 2002::/16 prefix	6to4
It connects IPV6 sites that are in same geographic locations	ISATAP
It uses native IPV6 addresses	ISATAP

Q52.

PADI	A packet that is sent with the destination_addr set to the broadcast address. The packet indicates the type of service requested.
PADO	A packet that is sent with the destination_addr set to the unicast address of the PPPoE client. The packet contains an offer of the client.
PADR	A packet that is sent from the PPPoE client with the destination_addr set to the chosen access concentrator. The packet contains a session request from the client.
PADS	A packet that is sent as confirmation to the client. The packet contains the unique PPPoE session ID.
PADT	A packet that is to terminate the PPPoE session

Q53.

Uses community-string authentication	SNMPv2c
Introduced support for the noAuthNoPriv security level	SNMPv2c
Introduced expanded error codes	SNMPv2c
Supports username authentication	SNMPv3
Introduced support for encryption	SNMPv3
Supports DES	SNMPv3

Q54. When is it useful to disable split horizon on an EIGRP interface?

- A. Disable it when you need to send updates to peers on the interface on which the updates were received.

Q55. Which statement about the BGP scope of the cost community is true?

- A. It is shared with IBGP and confederation peers.

Q56. Which two statements about IP source guard are true?

- A. It is not supported on private VLANs
- B. It is available only on L2 ports



Q57. What is the default ISIS interface metric on a Cisco router?

- A. 10

Q58. Which two statements about VPLS are true?

- A. It uses broadcast replication to transmit Ethernet packets with multicast MAC addresses.
- B. It enables CE devices on different networks to operate as if they were in the same LAN.

Q59. Which two statements about the CEF glean adjacency type are true?

- A. The adjacency database is used to gather specific prefixes when packets are destined to a specific host.
- B. The router FIB table maintains a prefix for the subnet instead of individual hosts.

Q60. Which option describes the purpose of the `no ip next-hop-self eigrp` configuration line in DMVPN deployment?

- A. It preserves the original next-hop value as learned by the spoke routers.

Q61. Which two statements about SNMP inform requests are true?

- A. For a particular event, an SNMP inform may be sent more than once.
- B. SNMP informs are sent to the SNMP manager and acknowledgement.

Q62. Which three protocols are permitted by IEEE 802.1x port-based authentication before the client is successfully authenticated by the RADIUS server?

- A. CDP
- B. STP
- C. EAPOL

Q63. Which two statements about CEF load balancing are true?

- A. Each hash maps directly to a single entry in adjacency table.
- B. It combines the source and destination IP address to create a hash for each destination.

Q64. Which value does ISIS use for Partial route computation?

- A. Changed routes

Q65. Which two statements are true about MLD?

- A. MLD is a sub-protocol of ICMPv6
- B. When a single link supports multiple interfaces, only one interface is required to send MLD message.

Q66. What two statements about the add path support in EIGRP feature are true?

- A. The `next-hop-self` command should be disabled to prevent interference with the `add-paths` command
- B. It allows a DMVPN hub to advertise as many as five best paths.

Q67. New authentication options in SNMPv3?

- A. `authNoPriv`
- B. `noAuthNoPriv`

Q68. Three security controls would you take into consideration when implementing IOT capabilities?

- A. Privacy impact statement
- B. Define lifecycle controls for IOT devices
- C. Layered Security Approach.

Q69. Which feature can you implement to most effectively protect customer traffic in a rate-limited WAN Ethernet service?

- A. HCBWFQ

Q70. What are two requirements of BFD static route support?

- A. CEF must be configured on all routers that will carry traffic.

Q71. In which way does the Bridge Assurance mechanism modify the default spanning-tree behaviour in an effort to prevent bridging loops?

- A. BPDUs are send bidirectional on all active network ports, including blocked & alternate ports

Q72. On a network with multiple VLANs, which three tasks you must perform to configure IP source guard on VLAN50 only?

- A. Configure ip verify source command on the interface
- B. Configure ip dhcp snooping command globally
- C. Configure ip dhcp snooping VLAN50 command globally

Q73. Which protocol does host use to request IPv6 Multicast traffic?

- A. MLD

Q74. Your network supports numerous devices that reside on different data link segments within the same IP Subnet. Which feature can you implement to enable the devices to resolve IP-to-MAC address mapping?

- A. Proxy ARP

Q75.

Cisco proprietary protocol	HDLC
Provides the default encapsulation of packets on serial interfaces	HDLC
Supports only synchronous interface	HDLC
Uses SLARP to maintain link keepalives	HDLC
An open standard	PPP
Supports authentication	PPP
Uses magic number to identify loopback	PPP
Uses LCP to verify link quality	PPP

Q76. Which three types of traffic are protected when you implement IPSec within an IPV6-in-IPv4 tunnel?

- A. IPV6 link-local
- B. IPV6 Unicast
- C. IPV4 Multicast

Q77. Which three statements about preference of IS-IS are true?

- A. Within each level, a path that supports optional metrics is preferred over a path that supports only the default metric
- B. An L1 path is preferred over an L2 path
- C. Within each level of metric support, the path with lowest metric is preferred.

Q78. When you deploy DMVPN, what is the purpose of the command `crypto isakmp key ciscotest address 0.0.0.0 0.0.0.0`?

- A. It is configured on hub to set the pre-shared key for the spoke routers.

Q79. Which three options are capabilities of queuing & scheduling?

- A. Bandwidth limitation
- B. Policing
- C. Queue buffers

Q80. Which type of access-list will allow incoming traffic for sessions that originated from within your network?

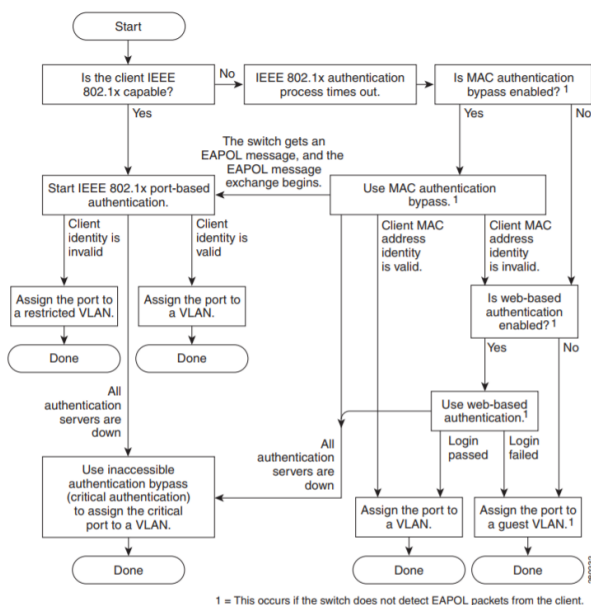
- A. Reflexive ACLs

Q81. Which mechanism can be used on L2 switches so that only multicast packets with downstream receivers are sent on the multicast router-connected ports?

- A. PIM snooping

Q82. Which statement about MAC authentication bypass is true?

- A. It can initiate after 802.1X authentication times out



Q83. Which three values used to generate unique bridge ID for each VLAN in PVST+?

- A. Extended system ID
- B. Switch Priority
- C. Spanning-tree MAC address

Q84. Which feature can mitigate hund management sessions?

- A. The service tcp-keepalives-in & service tcp-keepalives-out command

Q85. Which two configurations must you perform on a router so that you can use SCP to send configuration files to an external server?

- A. Configure the login local command under the VTY lines
- B. Configure the crypto key encrypt rsa command

Q86. What command can you configure on a router so that traffic generated from the router is policy-routes?

- A. ip local policy

Q87. Which two options are valid ipv6 extension header types?

- A. Mobility
- B. Encapsulating security payload

Q88. You are configuring R1 & R2 for L2TPv3 tunnelling. Which two additional configurations are required to enable R1 & R2 to establish the tunnel.

```
R1# show run
!
ip cef
!
no ip domain lookup
pseudowire-class R1toR2
ip local interface loopback 0
!
interface loopback 0
ip address x.x.x.x
!
interface F1/0
xconnect z.z.z.z 12 pw-class R1oR2
!
```

- A. R1 must be configured to encapsulate traffic by using L2TPv3 under the pseudowire-class R1toR2
- B. Loopback 0 on R1 must be advertised to R2

Q89. Which two statements about 6PE are true?

- A. It requires BGP to exchange labelled IPv6 unicast between PE routers
- B. Uses an IPv4-mapped IPv6 address as the IPv4 next-hop on PE router

Q90. R2 is configured with an IP helper address on Gig0/0 and it is sharing routers with R1 using OSPF. If PC1 is configured to request an IP address from DHCP server, which two statements correctly describes communication between the devices on the network?

- A. R1 forwards DHCPREQUEST to IP x.x.x.x (this is the helper address)
- B. PC1 send DHCPDISCOVER to address 255.255.255.255 (this is the broadcast)

Q91. Which statement about PMTUD is true? (Path MTU Discovery)

- A. It is used to prevent fragmentation of packets travelling across a smaller MTU link

Another closest option could be – It is supported by TCP & UDP

Q92.